GenCore version 4.5

OM nucleic - nucleic search, using sw model

Run on: March 2, 2002, 20:28:56 ; Search time 2699.18 Seconds
(without alignments)
2649.239 Million cell updates/sec

Title: US-09-540-235-1
Perfect score: 408
Sequence: 1 acgccgtcgattgagaatta.....acatccatctaatgttgtta 408

Scoring table: IDENTITY_NUC
Gapop 10.0 , Gapext 1.0

Searched: 17159718 seqs, 8763200856 residues

Total number of hits satisfying chosen parameters: 34319436

Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%
Maximum Match 100%
Listing first 45 summaries

Database : Pending_Patents_NA_Main:*
1: /cgn2_6/ptodata/1/pna/PCTUS_COMB.seq:*
2: /cgn2_6/ptodata/1/pna/US06_COMB.seq:*
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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Score	% Query Match	Length	DB	ID	Description
1	408	100.0	408	21	US-09-540-235-1	Sequence 1, Appli
2	408	100.0	408	45	US-60-128-439-2	Sequence 2, Appli
3	302.4	74.1	384	45	US-60-128-439-4188	Sequence 4188, Ap
4	302.4	74.1	417	21	US-09-540-235-5042	Sequence 5042, Ap
5	235.2	57.6	298	45	US-60-128-439-4189	Sequence 4189, Ap
6	235.2	57.6	327	21	US-09-540-235-5043	Sequence 5043, Ap
7	133.2	32.6	562	30	US-09-770-152-388	Sequence 388, App
8	132.8	32.5	371	23	US-09-605-701-18273	Sequence 18273, A
9	132.8	32.5	384	18	US-09-411-999-36936	Sequence 36936, A
10	132.8	32.5	394	23	US-09-605-701-5338	Sequence 5338, Ap
11	132.8	32.5	429	23	US-09-605-699-11618	Sequence 11618, A
12	132.8	32.5	471	23	US-09-605-701-4652	Sequence 4652, Ap
13	132.8	32.5	497	23	US-09-606-755-8558	Sequence 8558, Ap
14	132.8	32.5	543	18	US-09-411-999-32416	Sequence 32416, A
15	132.8	32.5	555	23	US-09-605-701-17385	Sequence 17385, A
16	132.8	32.5	595	58	US-60-253-457-24434	Sequence 24434, A
17	132.8	32.5	946	31	US-09-867-716-19329	Sequence 19329, A
18	130	31.9	417	25	US-09-654-617-150388	Sequence 150388,
19	130	31.9	417	27	US-09-684-016-150388	Sequence 150388,
20	130	31.9	449	23	US-09-605-701-17346	Sequence 17346, A
21	130	31.9	639	22	US-09-565-309A-56964	Sequence 56964, A
22	130	31.9	666	58	US-60-253-378-29237	Sequence 29237, A
23	130	31.9	724	25	US-09-654-617-127760	Sequence 127760,
24	130	31.9	724	27	US-09-684-016-127760	Sequence 127760,
c 25	130	31.9	51860	20	US-09-534-859-980	Sequence 980, App
c 26	130	31.9	51860	31	US-09-803-736-980	Sequence 980, App
27	129.8	31.8	423	18	US-09-411-999-31113	Sequence 31113, A
28	129.4	31.7	385	29	US-09-724-750-23275	Sequence 23275, A
29	129.4	31.7	385	50	US-60-171-431-23275	Sequence 23275, A
30	129	31.6	381	23	US-09-605-701-24416	Sequence 24416, A
31	129	31.6	639	22	US-09-565-309A-49589	Sequence 49589, A
c 32	126	30.9	668	28	US-09-705-926-2386	Sequence 2386, Ap
33	124.2	30.4	370	25	US-09-654-617-165153	Sequence 165153,
34	124.2	30.4	370	27	US-09-684-016-165153	Sequence 165153,
35	124.2	30.4	432	25	US-09-654-617-165221	Sequence 165221,
36	124.2	30.4	432	27	US-09-684-016-165221	Sequence 165221,
37	124.2	30.4	469	25	US-09-654-617-153103	Sequence 153103,
38	124.2	30.4	469	27	US-09-684-016-153103	Sequence 153103,
39	124.2	30.4	473	25	US-09-654-617-153505	Sequence 153505,
40	124.2	30.4	473	27	US-09-684-016-153505	Sequence 153505,
41	124.2	30.4	475	25	US-09-654-617-161426	Sequence 161426,

42	124.2	30.4	475	27	US-09-684-016-161426	Sequence 161426,
43	124.2	30.4	804	25	US-09-654-617-121273	Sequence 121273,
44	124.2	30.4	804	27	US-09-684-016-121273	Sequence 121273,
45	124.2	30.4	97711	27	US-09-692-412-90	Sequence 90, Appl

ALIGNMENTS

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RESULT   1
US-09-540-235-1
; Sequence 1, Application US/09540235
; GENERAL INFORMATION:
;  APPLICANT:       Fisher, Dane K.
;  APPLICANT:  Lalgudi, Raghunath V.
;  TITLE OF INVENTION:       Nucleic Acid Sequences from Cyanidium caldarium and Uses
;  TITLE OF INVENTION:  thereof
;  FILE REFERENCE:       38-21(15749)B
;  CURRENT APPLICATION NUMBER: US/09/540,235
;  CURRENT FILING DATE:  2000-04-03
;  PRIOR APPLICATION NUMBER:       60/128,439
;  PRIOR FILING DATE:       1999-04-06
;  NUMBER OF SEQ ID NOS:       5674
; SEQ ID NO 1
;   LENGTH: 408
;   TYPE: DNA
;   ORGANISM: Cyanidium caldarium
;   OTHER INFORMATION: Clone ID: LIB190-001-Q1-E1-A12
US-09-540-235-1


  Query Match             100.0%;  Score 408;  DB 21;  Length 408;
  Best Local Similarity   100.0%;  Pred. No. 2.1e-113;
  Matches  408;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

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Db      1 acgccgtcgattgagaattacgagttgctttcgagtctcggctgttggttcatattattc 60

Qy     61 tttgctgaaagcgtttggggcttgtatcagtcgccatgaagtattccaaagttgtatcgt 120
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     61 tttgctgaaagcgtttggggcttgtatcagtcgccatgaagtattccaaagttgtatcgt 120

Qy    121 cgtctagaagaaagcagaggaaagcatactttcaagcaccatcttctgtacgacgaatac 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    121 cgtctagaagaaagcagaggaaagcatactttcaagcaccatcttctgtacgacgaatac 180

Qy    181 tcatgagtgcacccttgtccaaggaactacgtacgaaatacagcgttcgttctttaccta 240
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    181 tcatgagtgcacccttgtccaaggaactacgtacgaaatacagcgttcgttctttaccta 240

Qy    241 ttcgaaaagaagacgaagtaatcatagttcgcggagctttcaagggtagagaaggaaaag 300
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    241 ttcgaaaagaagacgaagtaatcatagttcgcggagctttcaagggtagagaaggaaaag 300

Qy    301 ttacaacgtgttatcgaaagaaatatcggatacatatcgagagagtgaccagagaaaaag 360
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    301 ttacaacgtgttatcgaaagaaatatcggatacatatcgagagagtgaccagagaaaaag 360

Qy    361 cgaatggaatgactgtacctgtgggaatacatccatctaatgttgtta 408
          ||||||||||||||||||||||||||||||||||||||||||||||||
Db    361 cgaatggaatgactgtacctgtgggaatacatccatctaatgttgtta 408


RESULT   2
US-60-128-439-2
; Sequence 2, Application US/60128439
; GENERAL INFORMATION:
;  APPLICANT: Fisher, Dane K.
;  APPLICANT: Lalgudi, Raghunath V.
;  TITLE OF INVENTION: Nucleic Acid Sequences from Cyanidium caldarium and Uses
;  TITLE OF INVENTION: thereof
;  FILE REFERENCE: 38-21(15749)A
;  CURRENT APPLICATION NUMBER: US/60/128,439
;  CURRENT FILING DATE: 1999-04-06
;  NUMBER OF SEQ ID NOS: 5661
; SEQ ID NO 2
;   LENGTH: 408
;   TYPE: DNA
;   ORGANISM: Cyanidium caldarium
;   FEATURE:
;   OTHER INFORMATION: Clone ID: LIB190-001-Q1-E1-A12
US-60-128-439-2


  Query Match             100.0%;  Score 408;  DB 45;  Length 408;
  Best Local Similarity   100.0%;  Pred. No. 2.1e-113;
  Matches  408;  Conservative    0;  Mismatches    0;  Indels    0;  Gaps    0;

Qy      1 acgccgtcgattgagaattacgagttgctttcgagtctcggctgttggttcatattattc 60
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Db      1 acgccgtcgattgagaattacgagttgctttcgagtctcggctgttggttcatattattc 60

Qy     61 tttgctgaaagcgtttggggcttgtatcagtcgccatgaagtattccaaagttgtatcgt 120
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db     61 tttgctgaaagcgtttggggcttgtatcagtcgccatgaagtattccaaagttgtatcgt 120

Qy    121 cgtctagaagaaagcagaggaaagcatactttcaagcaccatcttctgtacgacgaatac 180
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    121 cgtctagaagaaagcagaggaaagcatactttcaagcaccatcttctgtacgacgaatac 180

Qy    181 tcatgagtgcacccttgtccaaggaactacgtacgaaatacagcgttcgttctttaccta 240
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Db    181 tcatgagtgcacccttgtccaaggaactacgtacgaaatacagcgttcgttctttaccta 240

Qy    241 ttcgaaaagaagacgaagtaatcatagttcgcggagctttcaagggtagagaaggaaaag 300
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Db    241 ttcgaaaagaagacgaagtaatcatagttcgcggagctttcaagggtagagaaggaaaag 300

Qy    301 ttacaacgtgttatcgaaagaaatatcggatacatatcgagagagtgaccagagaaaaag 360
          ||||||||||||||||||||||||||||||||||||||||||||||||||||||||||||
Db    301 ttacaacgtgttatcgaaagaaatatcggatacatatcgagagagtgaccagagaaaaag 360

Qy    361 cgaatggaatgactgtacctgtgggaatacatccatctaatgttgtta 408
          ||||||||||||||||||||||||||||||||||||||||||||||||
Db    361 cgaatggaatgactgtacctgtgggaatacatccatctaatgttgtta 408


RESULT   3
US-60-128-439-4188
; Sequence 4188, Application US/60128439
; GENERAL INFORMATION:
;  APPLICANT: Fisher, Dane K.
;  APPLICANT: Lalgudi, Raghunath V.
;  TITLE OF INVENTION: Nucleic Acid Sequences from Cyanidium caldarium and Uses
;  TITLE OF INVENTION: thereof
;  FILE REFERENCE: 38-21(15749)A
;  CURRENT APPLICATION NUMBER: US/60/128,439
;  CURRENT FILING DATE: 1999-04-06
;  NUMBER OF SEQ ID NOS: 5661
; SEQ ID NO 4188
;   LENGTH: 384
;   TYPE: DNA
;   ORGANISM: Cyanidium caldarium
;   FEATURE:
;   OTHER INFORMATION: Clone ID: LIB190-054-Q1-E1-D11
US-60-128-439-4188


  Query Match             74.1%;  Score 302.4;  DB 45;  Length 384;
  Best Local Similarity   91.2%;  Pred. No. 2.9e-81;
  Matches  321;  Conservative    0;  Mismatches   31;  Indels    0;  Gaps    0;

Qy     57 attctttgctgaaagcgtttggggcttgtatcagtcgccatgaagtattccaaagttgta 116
          |||| |||| ||  |||||||||||||||| ||||| |||||||||||||| ||||||||
Db      1 attcattgcggatcgcgtttggggcttgtaacagtcaccatgaagtattcccaagttgta 60
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Qy    117 tcgtcgtctagaagaaagcagaggaaagcatactttcaagcaccatcttctgtacgacga 176
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Db     61 tcgtcgtctagaagaaagcagaggagagcatacattcaagcaccatcgtctgtacgacga 120

Qy    177 atactcatgagtgcacccttgtccaaggaactacgtacgaaatacagcgttcgttcttta 236
          |||||||||||||||| |||||||||||||||||||| || |||||| ||||||||||||
Db    121 atactcatgagtgcatccttgtccaaggaactacgtatgatatacagggttcgttcttta 180

Qy    237 cctattcgaaaagaagacgaagtaatcatagttcgcggagctttcaagggtagagaagga 296
          ||||| ||| |||||||||| ||||| ||||| |||||||||||||| ||||||||| |||
Db    181 cctatgcgataagaagacgaggtaatgatagtacgcggagctttcaggggtagagatgga 240

Qy    297 aaagttacaacgtgttatcgaaagaaatatcggatacatatcgagagagtgaccagagaa 356
          |||| ||||||||||||||||  ||||||||||||||| ||||||||||||||||||||
Db    241 caagtcacaacgtgttatcgagggaaatatcggatacagatcgagagagtgaccagagaa 300

Qy    357 aaagcgaatggaatgactgtacctgtgggaatacatccatctaatgttgtta 408
          || |||||||||||||||||| ||||||||| ||||||||| | ||||||||
Db    301 aatgcgaatggaatgactgtagctgtgggaagacatccatcgagtgttgtta 352
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RESULT   4
US-09-540-235-5042
; Sequence 5042, Application US/09540235
; GENERAL INFORMATION:
;  APPLICANT:       Fisher, Dane K.
;  APPLICANT:  Lalgudi, Raghunath V.
;  TITLE OF INVENTION:       Nucleic Acid Sequences from Cyanidium caldarium and Uses
;  TITLE OF INVENTION:  thereof
;  FILE REFERENCE:       38-21(15749)B
;  CURRENT APPLICATION NUMBER: US/09/540,235
;  CURRENT FILING DATE:  2000-04-03
;  PRIOR APPLICATION NUMBER:       60/128,439
;  PRIOR FILING DATE:       1999-04-06
;  NUMBER OF SEQ ID NOS:       5674
; SEQ ID NO 5042
;   LENGTH: 417
;   TYPE: DNA
;   ORGANISM: Cyanidium caldarium
;   OTHER INFORMATION: Clone ID: LIB190-054-Q1-E1-D11
US-09-540-235-5042


  Query Match             74.1%;  Score 302.4;  DB 21;  Length 417;
  Best Local Similarity   91.2%;  Pred. No. 3e-81;
  Matches  321;  Conservative    0;  Mismatches   31;  Indels    0;  Gaps    0;

Qy     57 attctttgctgaaagcgtttggggcttgtatcagtcgccatgaagtattccaaagttgta 116
          |||| |||| ||  |||||||||||||||| ||||| ||||||||||||| ||||||||
Db     34 attcattgcggatcgcgtttggggcttgtaacagtcaccatgaagtattcccaagttgta 93

Qy    117 tcgtcgtctagaagaaagcagaggaaagcatactttcaagcaccatcttctgtacgacga 176
          |||||||||||||||||||||||| ||||||| |||||||||||| ||||||||||||
Db     94 tcgtcgtctagaagaaagcagaggagagcatacattcaagcaccatcgtctgtacgacga 153

Qy    177 atactcatgagtgcacccttgtccaaggaactacgtacgaaatacagcgttcgttcttta 236
          |||||||||||||||| |||||||||||||||||||| || |||||| ||||||||||||
Db    154 atactcatgagtgcatccttgtccaaggaactacgtatgatatacagggttcgttcttta 213

Qy    237 cctattcgaaaagaagacgaagtaatcatagttcgcggagctttcaagggtagagaagga 296
          ||||| ||| |||||||||| ||||| ||||| |||||||||||||| ||||||||| |||
Db    214 cctatgcgataagaagacgaggtaatgatagtacgcggagctttcaggggtagagatgga 273

Qy    297 aaagttacaacgtgttatcgaaagaaatatcggatacatatcgagagagtgaccagagaa 356
          |||| ||||||||||||||||  ||||||||||||||| ||||||||||||||||||||
Db    274 caagtcacaacgtgttatcgagggaaatatcggatacagatcgagagagtgaccagagaa 333

Qy    357 aaagcgaatggaatgactgtacctgtgggaatacatccatctaatgttgtta 408
          || |||||||||||||||||| ||||||||| ||||||||| | ||||||||
Db    334 aatgcgaatggaatgactgtagctgtgggaagacatccatcgagtgttgtta 385
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RESULT   5
US-60-128-439-4189
; Sequence 4189, Application US/60128439
; GENERAL INFORMATION:
;  APPLICANT: Fisher, Dane K.
;  APPLICANT: Lalgudi, Raghunath V.
;  TITLE OF INVENTION: Nucleic Acid Sequences from Cyanidium caldarium and Uses
;  TITLE OF INVENTION: thereof
;  FILE REFERENCE: 38-21(15749)A
;  CURRENT APPLICATION NUMBER: US/60/128,439
;  CURRENT FILING DATE: 1999-04-06
;  NUMBER OF SEQ ID NOS: 5661
; SEQ ID NO 4189
;   LENGTH: 298
;   TYPE: DNA
;   ORGANISM: Cyanidium caldarium
;   FEATURE:
;   OTHER INFORMATION: Clone ID: LIB190-054-Q1-E1-D12
US-60-128-439-4189


  Query Match             57.6%;  Score 235.2;  DB 45;  Length 298;
  Best Local Similarity   87.2%;  Pred. No. 7.7e-61;
  Matches  258;  Conservative    0;  Mismatches   38;  Indels    0;  Gaps    0;

Qy     57 attctttgctgaaagcgtttggggcttgtatcagtcgccatgaagtattccaaagttgta 116
          |||||  |||    |||||  ||||| ||||  | |  ||||||| |||||||| |||| |
Db      3 attctgtgcgaggagcgtgaggggcatgtagtaatgaccatgaactattccaaggttgga 62

Qy    117 tcgtcgtctagaagaaagcagaggaaagcatactttcaagcaccatcttctgtacgacga 176
          |||||||||||||||||||||||| |||||||||||||||| ||| ||||||||||||
Db     63 tcgtcgtctagaagaaagcagaggagagcatactttcaagcacgatcgtctgtacgacga 122

Qy    177 atactcatgagtgcacccttgtccaaggaactacgtacgaaatacagcgttcgttcttta 236
          ||||||||||||||  |||||||||||||||||||| || ||||||||||||||||||||
Db    123 atactcatgagtgcatgcttgtccaaggaactacgtatgatatacagcgttcgttcttta 182

Qy    237 cctattcgaaaagaagacgaagtaatcatagttcgcggagctttcaagggtagagaagga 296
          |||||  |||  ||||||||| |||||||||||||||||||||||| ||||||||| |||
Db    183 cctatgcgatcagaagacgaggtaatcatagttcgcggagctttcaggggtagagatgga 242

Qy    297 aaagttacaacgtgttatcgaaagaaatatcggatacatatcgagagagtgaccag 352
          |||  |||||||||||||||  ||| |||||||||||| ||||||||||||||| |
Db    243 ccagtcccaacgtgttatcgagggaactatcggatacagatcgagagagtgacccg 298
```

```
RESULT   6
US-09-540-235-5043
; Sequence 5043, Application US/09540235
; GENERAL INFORMATION:
;  APPLICANT:       Fisher, Dane K.
;  APPLICANT:  Lalgudi, Raghunath V.
;  TITLE OF INVENTION:       Nucleic Acid Sequences from Cyanidium caldarium and Uses
;  TITLE OF INVENTION:  thereof
;  FILE REFERENCE:       38-21(15749)B
;  CURRENT APPLICATION NUMBER: US/09/540,235
;  CURRENT FILING DATE:  2000-04-03
;  PRIOR APPLICATION NUMBER:       60/128,439
;  PRIOR FILING DATE:       1999-04-06
;  NUMBER OF SEQ ID NOS:       5674
; SEQ ID NO 5043
;   LENGTH: 327
;   TYPE: DNA
;   ORGANISM: Cyanidium caldarium
;   OTHER INFORMATION: Clone ID: LIB190-054-Q1-E1-D12
US-09-540-235-5043


  Query Match             57.6%;  Score 235.2;  DB 21;  Length 327;
  Best Local Similarity   87.2%;  Pred. No. 8e-61;
  Matches  258;  Conservative    0;  Mismatches   38;  Indels    0;  Gaps    0;

Qy     57 attctttgctgaaagcgtttggggcttgtatcagtcgccatgaagtattccaaagttgta 116
```

```
Db     32 attctgtgcgaggagcgtgaggggcatgtagtaatgaccatgaactattccaaggttgga 91

Qy    117 tcgtcgtctagaagaaagcagaggaaagcatactttcaagcaccatcttctgtacgacga 176
          ||||||||||||||||||||||||| |||||||||||||||| ||| ||||||||||||
Db     92 tcgtcgtctagaagaaagcagaggagagcatactttcaagcacgatcgtctgtacgacga 151

Qy    177 atactcatgagtgcacccttgtccaaggaactacgtacgaaatacagcgttcgttcttta 236
          |||||||||||||  ||||||||||||||||||| || ||||||||||||||||||||
Db    152 atactcatgagtgcatgcttgtccaaggaactacgtatgatatacagcgttcgttcttta 211

Qy    237 cctattcgaaaagaagacgaagtaatcatagttcgcggagctttcaagggtagagaagga 296
          ||||| |||  ||||||||| ||||||||||||||||||||||| ||||||||| |||
Db    212 cctatgcgatcagaagacgaggtaatcatagttcgcggagctttcaggggtagagatgga 271

Qy    297 aaagttacaacgtgttatcgaaagaaatatcggatacatatcgagagagtgaccag 352
            |||  |||||||||||||  ||| ||||||||||| |||||||||||||| |
Db    272 ccagtcccaacgtgttatcgagggaactatcggatacagatcgagagagtgacccg 327


RESULT   7
US-09-770-152-388
; Sequence 388, Application US/09770152
; GENERAL INFORMATION:
;  APPLICANT: Gorlach, Jorn
;  APPLICANT:  An, Yong-Qiang
;  APPLICANT:  Hamilton, Carol M.
;  APPLICANT:  Price, Jennifer L.
;  APPLICANT:  Raines, Tracy M.
;  APPLICANT:  Yu, Yang
;  APPLICANT:  Rameaka, Joshua G.
;  APPLICANT:  Page, Amy
;  APPLICANT:  Matthew, Abraham V.
;  APPLICANT:  Ledford, Brooke L.
;  APPLICANT:  Woessner, Jeffrey P.
;  APPLICANT:  Haas, William David
;  APPLICANT:  Garcia, Carlos A.
;  APPLICANT:  Kricker, Maja
;  APPLICANT:  Slader, Ted
;  APPLICANT:  Davis, Keith R.
;  APPLICANT:  Allen, Keith
;  APPLICANT:  Hoffman, Neil
;  APPLICANT:  Hurban, Patrick
;  TITLE OF INVENTION: Expressed Sequences of Arabidopsis
;  TITLE OF INVENTION:  thaliana
;  FILE REFERENCE: 2025US (PARA-014PRV)
;  CURRENT APPLICATION NUMBER: US/09/770,152
;  CURRENT FILING DATE:  2001-01-26
;  PRIOR APPLICATION NUMBER: 60/178,503
;  PRIOR FILING DATE: 2000-01-27
;  NUMBER OF SEQ ID NOS: 999
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 388
;   LENGTH: 562
;   TYPE: DNA
;   ORGANISM: Arabidopsis thaliana
US-09-770-152-388


  Query Match             32.6%;  Score 133.2;  DB 30;  Length 562;
  Best Local Similarity   63.4%;  Pred. No. 1.1e-29;
  Matches  204;  Conservative    0;  Mismatches  118;  Indels    0;  Gaps    0;

Qy     87 tcagtcgccatgaagtattccaaagttgtatcgtcgtctagaagaaagcagaggaaagca 146
          || |  || |||||||          |||  | || ||| |  | ||| | ||||| ||
Db     29 tcggcggcgatgaagttcaatccgcgtgtgacctcttctcgccggaagaacaggaaggct 88

Qy    147 tactttcaagcaccatcttctgtacgacgaatactcatgagtgcacccttgtccaaggaa 206
           ||||   ||| || ||    ||  | ||  | ||||||||  | || || ||||||||
Db     89 cacttcacagctccttcaagcgtgaggcgcgttctcatgagctcgccgttatccaaggac 148

Qy    207 ctacgtacgaaatacagcgttcgttctttacctattcgaaaagaagacgaagtaatcata 266
          || ||||  ||||||| |||  | ||  | || ||||| ||||| ||||||||     |

Db    149 ctccgtaacaaatacaacgtcagatccatgccgattcgtaaagacgacgaagtgcaagtt 208

Qy    267 gttcgcggagctttcaagggtagagaaggaaaagttacaacgtgttatcgaaagaaatat 326
          ||||| ||  | ||||||||| |||||||| || || |    |   |||||    || |
Db    209 gttcgtgggacgttcaagggaagagaagggaaggtgatgcaggtgtatcgccgcaagtgg 268

Qy    327 cggatacatatcgagagagtgaccagagaaaaagcgaatggaatgactgtacctgtggga 386
             ||| || |||||||||| | || || || |||| || ||||  || ||    || |||
Db    269 gtgattcacatcgagagaatcacaagggagaaagtcaacggaaccacggtcaacgtcgga 328

Qy    387 atacatccatctaatgttgtta 408
            |  || | || |||||  | |
Db    329 gtcaatgcttcgaatgtgatga 350


RESULT   8
US-09-605-701-18273
; Sequence 18273, Application US/09605701
; GENERAL INFORMATION:
;  APPLICANT:  Havukkala, Ilkka
;  APPLICANT:  Shenk, Michael A.
;  TITLE OF INVENTION:  Polynucleotides, Materiald Incorporating
;  TITLE OF INVENTION:  Them, and Methods for Using Them
;  FILE REFERENCE:  11000.1041U3
;  CURRENT APPLICATION NUMBER: US/09/605,701
;  CURRENT FILING DATE:  2000-06-21
;  NUMBER OF SEQ ID NOS:  25120
;  SOFTWARE:  FastSEQ for Windows Version 4.0
; SEQ ID NO 18273
;   LENGTH: 371
;   TYPE: DNA
;   ORGANISM: Pinus radiata
US-09-605-701-18273


  Query Match             32.5%;  Score 132.8;  DB 23;  Length 371;
  Best Local Similarity   63.4%;  Pred. No. 1.3e-29;
  Matches  203;  Conservative    0;  Mismatches  117;  Indels    0;  Gaps    0;

Qy     88 cagtcgccatgaagtattccaaagttgtatcgtcgtctagaagaaagcagaggaaagcat 147
          || ||   ||||||||      |   ||       || || ||||||    | || |||
Db      3 cattcaggatgaagtacaatccaagagtcagcagttccaggagaaagagccgcaaggcac 62

Qy    148 actttcaagcaccatcttctgtacgacgaatactcatgagtgcacccttgtccaaggaac 207
          | ||    || ||||||  ||| || || ||  | ||||||||||  |||||   ||
Db     63 atttcactgccccatctagtgtgcggcgtattttgatgagtgcaccactgtcctctgatt 122

Qy    208 tacgtacgaaatacagcgttcgttctttacctattcgaaaagaagacgaagtaatcatag 267
          |  | |  || ||||  ||||||||  | || ||| |||| || || |||||     | |
Db    123 tgagaaacaagtacaatgttcgttcgattccgattagaaaggatgatgaagttcaggtgg 182

Qy    268 ttcgcggagctttcaagggtagagaaggaaaagttacaacgtgttatcgaaagaaatatc 327
          | || ||| | || ||||||||||||||| ||||||        ||||||||||||
Db    183 tacgaggaacatttaagggtagagaaggcaaagttgtccaagtttatcgaaagaaatggg 242

Qy    328 ggatacatatcgagagagtgaccagagaaaaagcgaatggaatgactgtacctgtgggaa 387
            |||||| | ||| |  | ||  | || ||||  ||||| |  |||||   ||| ||
Db    243 tcatacatgttgagcgcattactcgtgagaaagtcaatggcacaactgtgaatgttggtg 302

Qy    388 tacatccatctaatgttgtt 407
          | || ||||| || || |||
Db    303 tccacccatccaaggtcgtt 322


RESULT   9
US-09-411-999-36936
; Sequence 36936, Application US/09411999
; GENERAL INFORMATION:
;  APPLICANT: Havukkala, Ilkka
;  APPLICANT: Shenk, Michael Andrew
;  TITLE OF INVENTION: Polynucleotides isolated from plants and
;  TITLE OF INVENTION: methods for their use.
;  FILE REFERENCE: 1023U
```

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;  CURRENT APPLICATION NUMBER: US/09/411,999
;  CURRENT FILING DATE: 1999-10-04
;  NUMBER OF SEQ ID NOS: 37897
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 36936
;   LENGTH: 384
;   TYPE: DNA
;   ORGANISM: Pinus radiata
US-09-411-999-36936


  Query Match            32.5%;  Score 132.8;  DB 18;  Length 384;
  Best Local Similarity  63.4%;  Pred. No. 1.3e-29;
  Matches  203;  Conservative    0;  Mismatches  117;  Indels    0;  Gaps    0;

Qy      88 cagtcgccatgaagtattccaaagttgtatcgtcgtctagaagaaagcagaggaaagcat 147
           || ||   ||||||||      |   ||       || || ||||||    | || |||
Db      44 cattcaggatgaagtacaatccaagagtcagcagttccaggagaaagagccgcaaggcac 103

Qy     148 actttcaagcaccatcttctgtacgacgaatactcatgagtgcacccttgtccaaggaac 207
           | ||    || ||||||  ||| || || ||  | ||||||||||  |||||   ||
Db     104 atttcactgccccatctagtgtgcggcgtattttgatgagtgcaccactgtcctctgatt 163

Qy     208 tacgtacgaaatacagcgttcgttctttacctattcgaaaagaagacgaagtaatcatag 267
           |  | |  || ||||  ||||||||  | || ||| |||| || || |||||     | |
Db     164 tgagaaacaagtacaatgttcgttcgattccgattagaaaggatgatgaagttcaggtgg 223

Qy     268 ttcgcggagctttcaagggtagagaaggaaaagttacaacgtgttatcgaaagaaatatc 327
           | || ||| | || |||||||||||||| ||||||        |||||||||||||
Db     224 tacgaggaacatttaagggtagagaaggcaaagttgtccaagtttatcgaaagaaatggg 283

Qy     328 ggatacatatcgagagagtgaccagagaaaaagcgaatggaatgactgtacctgtgggaa 387
             |||||| | ||| |  | ||  | || ||||  ||||| |  |||||   ||| ||
Db     284 tcatacatgttgagcgcattactcgtgagaaagtcaatggcacaactgtgaatgttggtg 343

Qy     388 tacatccatctaatgttgtt 407
           | || ||||| || || |||
Db     344 tccacccatccaaggtcgtt 363


RESULT  10
US-09-605-701-5338
; Sequence 5338, Application US/09605701
; GENERAL INFORMATION:
;  APPLICANT:  Havukkala, Ilkka
;  APPLICANT:  Shenk, Michael A.
;  TITLE OF INVENTION:  Polynucleotides, Materiald Incorporating
;  TITLE OF INVENTION:  Them, and Methods for Using Them
;  FILE REFERENCE:  11000.1041U3
;  CURRENT APPLICATION NUMBER: US/09/605,701
;  CURRENT FILING DATE:  2000-06-21
;  NUMBER OF SEQ ID NOS:  25120
;  SOFTWARE:  FastSEQ for Windows Version 4.0
; SEQ ID NO 5338
;   LENGTH: 394
;   TYPE: DNA
;   ORGANISM: Pinus radiata
US-09-605-701-5338


  Query Match            32.5%;  Score 132.8;  DB 23;  Length 394;
  Best Local Similarity  63.4%;  Pred. No. 1.3e-29;
  Matches  203;  Conservative    0;  Mismatches  117;  Indels    0;  Gaps    0;

Qy      88 cagtcgccatgaagtattccaaagttgtatcgtcgtctagaagaaagcagaggaaagcat 147
           || ||   ||||||||      |   ||       || || ||||||    | || |||
Db      53 cattcaggatgaagtacaatccaagagtcagcagttccaggagaaagagccgcaaggcac 112

Qy     148 actttcaagcaccatcttctgtacgacgaatactcatgagtgcacccttgtccaaggaac 207
           | ||    || ||||||  ||| || || ||  | ||||||||||  |||||   ||
Db     113 atttcactgccccatctagtgtgcggcgtattttgatgagtgcaccactgtcctctgatt 172

Qy     208 tacgtacgaaatacagcgttcgttctttacctattcgaaaagaagacgaagtaatcatag 267
           |  | |  || ||||  ||||||||  | || ||| |||| || || |||||     | |
Db     173 tgagaaacaagtacaatgttcgttcgattccgattagaaaggatgatgaagttcaggtgg 232

Qy     268 ttcgcggagctttcaagggtagagaaggaaaagttacaacgtgttatcgaaagaaatatc 327
           | || ||| | || |||||||||||||| ||||||        |||||||||||||
Db     233 tacgaggaacatttaagggtagagaaggcaaagttgtccaagtttatcgaaagaaatggg 292

Qy     328 ggatacatatcgagagagtgaccagagaaaaagcgaatggaatgactgtacctgtgggaa 387
             |||||| | ||| |  | ||  | || ||||  ||||| |  |||||   ||| ||
Db     293 tcatacatgttgagcgcattactcgtgagaaagtcaatggcacaactgtgaatgttggtg 352

Qy     388 tacatccatctaatgttgtt 407
           | || ||||| || || |||
Db     353 tccacccatccaaggtcgtt 372


RESULT  11
US-09-605-699-11618
; Sequence 11618, Application US/09605699
; GENERAL INFORMATION:
;  APPLICANT:  Havukkala, Ilkka
;  APPLICANT:  Shenk, Michael A
;  TITLE OF INVENTION:  Polynucleotides, Materials Incorporating
;  TITLE OF INVENTION:  Them, and Methods for Using Them
;  FILE REFERENCE:  11000.1041U2
;  CURRENT APPLICATION NUMBER: US/09/605,699
;  CURRENT FILING DATE:  2000-06-21
;  NUMBER OF SEQ ID NOS:  25120
;  SOFTWARE:  FastSEQ for Windows Version 4.0
; SEQ ID NO 11618
;   LENGTH: 429
;   TYPE: DNA
;   ORGANISM: Pinus radiata
US-09-605-699-11618


  Query Match            32.5%;  Score 132.8;  DB 23;  Length 429;
  Best Local Similarity  63.4%;  Pred. No. 1.3e-29;
  Matches  203;  Conservative    0;  Mismatches  117;  Indels    0;  Gaps    0;

Qy      88 cagtcgccatgaagtattccaaagttgtatcgtcgtctagaagaaagcagaggaaagcat 147
           || ||   ||||||||      |   ||       || || ||||||    | || |||
Db      53 cattcaggatgaagtacaatccaagagtcagcagttccaggagaaagagccgcaaggcac 112

Qy     148 actttcaagcaccatcttctgtacgacgaatactcatgagtgcacccttgtccaaggaac 207
           | ||    || ||||||  ||| || || ||  | ||||||||||  |||||   ||
Db     113 atttcactgccccatctagtgtgcggcgtattttgatgagtgcaccactgtcctctgatt 172

Qy     208 tacgtacgaaatacagcgttcgttctttacctattcgaaaagaagacgaagtaatcatag 267
           |  | |  || ||||  ||||||||  | || ||| |||| || || |||||     | |
Db     173 tgagaaacaagtacaatgttcgttcgattccgattagaaaggatgatgaagttcaggtgg 232

Qy     268 ttcgcggagctttcaagggtagagaaggaaaagttacaacgtgttatcgaaagaaatatc 327
           | || ||| | || |||||||||||||| ||||||        |||||||||||||
Db     233 tacgaggaacatttaagggtagagaaggcaaagttgtccaagtttatcgaaagaaatggg 292

Qy     328 ggatacatatcgagagagtgaccagagaaaaagcgaatggaatgactgtacctgtgggaa 387
             |||||| | ||| |  | ||  | || ||||  ||||| |  |||||   ||| ||
Db     293 tcatacatgttgagcgcattactcgtgagaaagtcaatggcacaactgtgaatgttggtg 352

Qy     388 tacatccatctaatgttgtt 407
           | || ||||| || || |||
Db     353 tccacccatccaaggtcgtt 372


RESULT  12
US-09-605-701-4652
; Sequence 4652, Application US/09605701
; GENERAL INFORMATION:
;  APPLICANT:  Havukkala, Ilkka
;  APPLICANT:  Shenk, Michael A.
;  TITLE OF INVENTION:  Polynucleotides, Materiald Incorporating
;  TITLE OF INVENTION:  Them, and Methods for Using Them
```

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;  FILE REFERENCE:  11000.1041U3
;  CURRENT APPLICATION NUMBER: US/09/605,701
;  CURRENT FILING DATE:  2000-06-21
;  NUMBER OF SEQ ID NOS:  25120
;  SOFTWARE:  FastSEQ for Windows Version 4.0
; SEQ ID NO 4652
;   LENGTH: 471
;   TYPE: DNA
;   ORGANISM: Pinus radiata
US-09-605-701-4652


  Query Match             32.5%;  Score 132.8;  DB 23;  Length 471;
  Best Local Similarity   63.4%;  Pred. No. 1.4e-29;
  Matches  203;  Conservative    0;  Mismatches  117;  Indels    0;  Gaps    0;

Qy      88 cagtcgccatgaagtattccaaagttgtatcgtcgtctagaagaaagcagaggaaagcat 147
           || ||   ||||||||      |   ||       || || ||||||    | || |||
Db      78 cattcaggatgaagtacaatccaagagtcagcagttccaggagaaagagccgcaaggcac 137

Qy     148 actttcaagcaccatcttctgtacgacgaatactcatgagtgcacccttgtccaaggaac 207
           | ||    || ||||||  ||| || || ||  | ||||||||||  |||||   ||
Db     138 atttcactgccccatctagtgtgcggcgtattttgatgagtgcaccactgtcctctgatt 197

Qy     208 tacgtacgaaatacagcgttcgttctttacctattcgaaaagaagacgaagtaatcatag 267
           |  | |  || |||| ||||||||  | || ||| |||| || || |||||     | |
Db     198 tgagaaacaagtacaatgttcgttcgattccgattagaaaggatgatgaagttcaggtgg 257

Qy     268 ttcgcggagctttcaagggtagagaaggaaaagttacaacgtgttatcgaaagaaatatc 327
           | || ||| | || ||||||||||||||| ||||||        ||||||||||||||
Db     258 tacgaggaacatttaagggtagagaaggcaaagttgtccaagtttatcgaaagaaatggg 317

Qy     328 ggatacatatcgagagagtgaccagagaaaaagcgaatggaatgactgtacctgtgggaa 387
             |||||| | ||| |  | ||  | || ||||  ||||| |  |||||   ||| ||
Db     318 tcatacatgttgagcgcattactcgtgagaaagtcaatggcacaactgtgaatgttggtg 377

Qy     388 tacatccatctaatgttgtt 407
           | || ||||| || || |||
Db     378 tccacccatccaaggtcgtt 397


RESULT  13
US-09-606-755-8558
; Sequence 8558, Application US/09606755
; GENERAL INFORMATION:
;  APPLICANT: Havukkala, Ilkka
;  APPLICANT:  Shenk, Michael A.
;  TITLE OF INVENTION: Polynucleotides, Materials Incorporating
;  TITLE OF INVENTION:  Them, and Methods for Using Them
;  FILE REFERENCE: 11000.1041U6
;  CURRENT APPLICATION NUMBER: US/09/606,755
;  CURRENT FILING DATE:  2000-06-22
;  NUMBER OF SEQ ID NOS: 17747
;  SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 8558
;   LENGTH: 497
;   TYPE: DNA
;   ORGANISM: Pinus radiata
US-09-606-755-8558


  Query Match             32.5%;  Score 132.8;  DB 23;  Length 497;
  Best Local Similarity   63.4%;  Pred. No. 1.4e-29;
  Matches  203;  Conservative    0;  Mismatches  117;  Indels    0;  Gaps    0;

Qy      88 cagtcgccatgaagtattccaaagttgtatcgtcgtctagaagaaagcagaggaaagcat 147
           || ||   ||||||||      |   ||       || || ||||||    | || |||
Db      26 cattcaggatgaagtacaatccaagagtcagcagttccaggagaaagagccgcaaggcac 85

Qy     148 actttcaagcaccatcttctgtacgacgaatactcatgagtgcacccttgtccaaggaac 207
           | ||    || ||||||  ||| || || ||  | ||||||||||  |||||   ||
Db      86 atttcactgccccatctagtgtgcggcgtattttgatgagtgcaccactgtcctctgatt 145

Qy     208 tacgtacgaaatacagcgttcgttctttacctattcgaaaagaagacgaagtaatcatag 267
           |  | |  || |||| ||||||||  | || ||| |||| || || |||||     | |
Db     146 tgagaaacaagtacaatgttcgttcgattccgattagaaaggatgatgaagttcaggtgg 205

Qy     268 ttcgcggagctttcaagggtagagaaggaaaagttacaacgtgttatcgaaagaaatatc 327
           | || ||| | || ||||||||||||||| ||||||        ||||||||||||||
Db     206 tacgaggaacatttaagggtagagaaggcaaagttgtccaagtttatcgaaagaaatggg 265

Qy     328 ggatacatatcgagagagtgaccagagaaaaagcgaatggaatgactgtacctgtgggaa 387
             |||||| | ||| |  | ||  | || ||||  ||||| |  |||||   ||| ||
Db     266 tcatacatgttgagcgcattactcgtgagaaagtcaatggcacaactgtgaatgttggtg 325

Qy     388 tacatccatctaatgttgtt 407
           | || ||||| || || |||
Db     326 tccacccatccaaggtcgtt 345


RESULT  14
US-09-411-999-32416
; Sequence 32416, Application US/09411999
; GENERAL INFORMATION:
;  APPLICANT: Havukkala, Ilkka
;  APPLICANT: Shenk, Michael Andrew
;  TITLE OF INVENTION: Polynucleotides isolated from plants and
;  TITLE OF INVENTION: methods for their use.
;  FILE REFERENCE: 1023U
;  CURRENT APPLICATION NUMBER: US/09/411,999
;  CURRENT FILING DATE: 1999-10-04
;  NUMBER OF SEQ ID NOS: 37897
;  SOFTWARE: FastSEQ for Windows Version 3.0
; SEQ ID NO 32416
;   LENGTH: 543
;   TYPE: DNA
;   ORGANISM: Pinus radiata
US-09-411-999-32416


  Query Match             32.5%;  Score 132.8;  DB 18;  Length 543;
  Best Local Similarity   63.4%;  Pred. No. 1.4e-29;
  Matches  203;  Conservative    0;  Mismatches  117;  Indels    0;  Gaps    0;

Qy      88 cagtcgccatgaagtattccaaagttgtatcgtcgtctagaagaaagcagaggaaagcat 147
           || ||   ||||||||      |   ||       || || ||||||    | || |||
Db      71 cattcaggatgaagtacaatccaagagtcagcagttccaggagaaagagccgcaaggcac 130

Qy     148 actttcaagcaccatcttctgtacgacgaatactcatgagtgcacccttgtccaaggaac 207
           | ||    || ||||||  ||| || || ||  | ||||||||||  |||||   ||
Db     131 atttcactgccccatctagtgtgcggcgtattttgatgagtgcaccactgtcctctgatt 190

Qy     208 tacgtacgaaatacagcgttcgttctttacctattcgaaaagaagacgaagtaatcatag 267
           |  | |  || |||| ||||||||  | || ||| |||| || || |||||     | |
Db     191 tgagaaacaagtacaatgttcgttcgattccgattagaaaggatgatgaagttcaggtgg 250

Qy     268 ttcgcggagctttcaagggtagagaaggaaaagttacaacgtgttatcgaaagaaatatc 327
           | || ||| | || ||||||||||||||| ||||||        ||||||||||||||
Db     251 tacgaggaacatttaagggtagagaaggcaaagttgtccaagtttatcgaaagaaatggg 310

Qy     328 ggatacatatcgagagagtgaccagagaaaaagcgaatggaatgactgtacctgtgggaa 387
             |||||| | ||| |  | ||  | || ||||  ||||| |  |||||   ||| ||
Db     311 tcatacatgttgagcgcattactcgtgagaaagtcaatggcacaactgtgaatgttggtg 370

Qy     388 tacatccatctaatgttgtt 407
           | || ||||| || || |||
Db     371 tccacccatccaaggtcgtt 390


RESULT  15
US-09-605-701-17385
; Sequence 17385, Application US/09605701
; GENERAL INFORMATION:
;  APPLICANT:  Havukkala, Ilkka
;  APPLICANT:  Shenk, Michael A.
;  TITLE OF INVENTION:  Polynucleotides, Materiald Incorporating
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; TITLE OF INVENTION: Them, and Methods for Using Them
; FILE REFERENCE: 11000.1041U3
; CURRENT APPLICATION NUMBER: US/09/605,701
; CURRENT FILING DATE: 2000-06-21
; NUMBER OF SEQ ID NOS: 25120
; SOFTWARE: FastSEQ for Windows Version 4.0
; SEQ ID NO 17385
; LENGTH: 555
; TYPE: DNA
; ORGANISM: Pinus radiata
US-09-605-701-17385

Query Match 32.5%; Score 132.8; DB 23; Length 555;
Best Local Similarity 63.4%; Pred. No. 1.5e-29;
Matches 203; Conservative 0; Mismatches 117; Indels 0; Gaps 0;

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Qy      88 cagtcgccatgaagtattccaaagttgtatcgtcgtctagaagaaagcagaggaaagcat 147
           || ||   ||||||||      |   ||       || || ||||||    | || |||
Db      69 cattcaggatgaagtacaatccaagagtcagcagttccaggagaaagagccgcaaggcac 128

Qy     148 actttcaagcaccatcttctgtacgacgaatactcatgagtgcacccttgtccaaggaac 207
           | ||    || ||||||  ||| || || ||  | ||||||||||  |||||   ||
Db     129 atttcactgccccatctagtgtgcggcgtattttgatgagtgcaccactgtcctctgatt 188

Qy     208 tacgtacgaaatacagcgttcgttctttacctattcgaaaagaagacgaagtaatcatag 267
           |  | |  || ||||  |||||||  | || ||| |||| || || |||||     | |
Db     189 tgagaaacaagtacaatgttcgttcgattccgattagaaaggatgatgaagttcaggtgg 248

Qy     268 ttcgcggagctttcaagggtagagaaggaaaagttacaacgtgttatcgaaagaaatatc 327
           | || ||| | || ||||||||||||||| ||||||        ||||||||||||||
Db     249 tacgaggaacatttaagggtagagaaggcaaagttgtccaagtttatcgaaagaaatggg 308

Qy     328 ggatacatatcgagagagtgaccagagaaaaagcgaatggaatgactgtacctgtgggaa 387
             |||||| | ||| |  | ||  | || ||||  ||||| |  |||||   ||| ||
Db     309 tcatacatgttgagcgcattactcgtgagaaagtcaatggcacaactgtgaatgttggtg 368

Qy     388 tacatccatctaatgttgtt 407
           | || ||||| || || |||
Db     369 tccacccatccaaggtcgtt 388
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Search completed: March 2, 2002, 23:02:24
Job time: 9208 sec